## Abstract of the Disclosure

A first dielectric wall and a second dielectric wall in which hollow alumina cylindrical columns are arranged in a layered form that the /axial centers of the alumina so cylindrical columns have planar triangular lattice arrays, are other / in parallel with air each opposed to interposed therebetween. Metal plates are opposed to each other with both end faces of the alumina cylindrical columns constituting the first dielectric wal/1 and the second dielectric wall being interposed thereberween. Further, the first and second dielectric walls and and the metal plates are bonded to one another, whereby/a high-frequency waveguide is configured which radiation loss, inexpensive reduced and is i∕n low in transmission Voss.